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ABSTRACT

Two-way, or bilingual, immersion education, a major innovation in the integration of language and content instruction, is intended to improve the quality of language education for language minority and language majority students in the United States. The emerging educational practice responds to the increasing proportions of language minority students in many parts of the country and also holds promise for improving the quality of foreign language instruction for language majority children. An introductory section describes the early Canadian experience with language and content integration, which began over 20 years ago, and discusses the benefits of bringing language majority and language minority students together in a single program of instruction (two-way, or bilingual, immersion). The basic bilingual immersion program model is discussed, and related research is reviewed. Two exemplary programs, Arlington, Virginia's Key Elementary School and California's Edison Elementary School in the Santa Monica-Malibu Unified School District, are discussed. The report concludes that bilingual immersion education can be a powerful vehicle for promoting the development of bilingual language proficiency and social competence in elementary school children, and that the success of this approach depends largely on teachers' sensitivity to the children's language abilities and needs. 28 references. (MSE)

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The Integration of Language and Content Instruction for Language Minority and Language Majority Students

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U.S. DEPARTMENT OF EDUCATION
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Our major purpose in this paper is to describe a series of on-going educational innovations intended to improve the quality of (language) education for language minority and language majority individuals in the United States. We take as our point of departure the observation that the number of school-aged language minority students is increasing dramatically. In many parts of the United States, such students now -- or shortly will -- constitute a majority of the pupils in local educational agencies (LEAs). In many instances, students enter school with minimal or no proficiency whatsoever in English. In other instances, language minority students who seem -- at least to all outward appearances -- proficient in social language skills often have difficulty in acquiring the academic language and the cognitive skills which they need for success in their math, science, and other academic subjects. The purpose of our paper is not to reenter the debate on the optimal (language) educational strategies for such youngsters; others have done that (e.g., Hakuta, 1986; Willig, 1985,). Rather, we wish to describe an emerging educational practice that seems to offer great promise for such students.

Simultaneously, large numbers of language majority children participate in sequences of foreign language study at the elementary or secondary level without apparently ever developing meaningful proficiency in their target language. A nationwide survey of foreign language enrollments by CAL staff (Rhodes & Oxford, 1988) revealed that approximately 22% of our nation's elementary schools and approximately 87% of our secondary schools offer programs of foreign language instruction. However, the best guess we can make is that fewer than 1% of the students who are enrolled in such programs -- already a relatively small number of youngsters -- participate in programs in which the development of bilingual proficiency is either a domonstrable program goal or an attainable objective. (In passing, it should also be noted that our students, for

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the most part, do not study any of the so-called less commonly taught languages -- languages which are after all spoken by a large majority of the world's population.) Is it realistic for language majority children to acquire bilingual proficiency by participating in foreign language programs within our public school system? Again, the purpose of our paper is not to examine the broad array of methods and approaches used to deliver foreign language instruction (cf., Larsen-Freeman, 1986; Richards & Rodgers, 1986; Schinke-Llano, 1985; Stern, 1983). Instead, we wish to describe an educational practice that seems to hold great promise for improving the quality of foreign language instruction, and concomitantly the degree of proficiency attained.

The Integration of Language and Content Instruction. During the last five years, increasing attention has focused on what has come to be called **content-based language instruction** (sometimes referred to as language-sensitive content instruction when implemented by the content-area teacher). Such instruction offers the possibility of broadening and deepening the language proficiency of both students of foreign and second languages. A number of encouraging models of integrated language and content instruction have been tried at elementary, secondary, and tertiary levels. These include sheltered English classes, classes in specific academic language skills, foreign language immersion programs which teach content in the second language, and parallel courses in language and content (see for example, Cantoni-Harvey, 1987; Chamot & O'Malley, 1987; Crandall, 1987; Mohan, 1986; Short, Crandall & Christian, 1989; Snow & Brinton, 1988; Willetts, 1986). Recently, Snow, Met, and Genesee (1989) have presented a conceptual framework for integrating language and content instruction which they illustrate with examples from both foreign language and ESL classes.

An approach which seeks to integrate language and content instruction contrasts sharply with many existing practices or methods in which language skills are taught virtually in isolation from substantive content. Often, the use of traditional approaches means that the target language is not used for communication in any meaningful, purposeful, or even natural contexts. It is the feeling of those associated with this move toward integrating language and content instruction that the substantive content of a curriculum provides both a motivational and a cognitive basis for driving or

for enhancing language learning -- and that (target) language development and cognitive development can best proceed simultaneously. Another rationale for the strongest possible integration of language and content instruction lies with the necessity for the child to acquire the "school register" of language -- that is, to acquire proficiency in the cognitive academic language which is needed to participate effectively in cognitively demanding, complex, and often abstract school learning. Although this need has been cited as a matter of particular concern for teachers of limited English proficient (LEP) youngsters, it is certainly also a concern for those who seek to develop higher level skills in foreign languages for language majority youngsters.

A Brief Diversion. Although we did not realize it at the time (and certainly did not label it as such),we began exploring the area of content-based language instruction at McGill University in the mid-1960s. At the time, a number of us -- parents, educators, and researchers (see, for example, the Introduction to Lambert & Tucker, 1972) -- were becoming increasingly concerned by the fact that anglophone or English-speaking youngsters could somehow participate in 12 years of foreign or second language instruction in French; pass the required matriculation examinations set by the Ministry of Education of the Province of Quebec; but still not function fluently and confidently in educational, occupational, or social settings following their graduation. This same story was repeated -- and perhaps with even less tangible results -- in the other nine Canadian provinces and two territories. In the United States, of course, virtually no public school graduates whatsoever developed target language proficiency by following any regular sequence of courses offered by LEAs throughout the country.

At McGill University, several of us proposed exploring the implementation of innovative educational programs that might lead to the development of full and effective bilingual proficiency on the part of public school participants -- programs that might lead to the development of social and academic language skills in both the first and the second language, and that might result in the acquisition of the requisite content material that students were expected to cover. Thus, in 1965 we began a pilot program in the community of St. Lambert, Quebec in which anglophone children were introduced to their early schooling principally through the medium of French -- a second language for them. The so-called Canadian immersion studies have been described in great detail in

many places (cf., Genesee, 1987; Lambert & Tucker, 1972; Swain, 1984). Briefly, the salient characteristics of these programs have been that:

1. The programs were designed for English-speaking youngsters in response to continuing parental dissatisfaction with the level of French attained by children participating in English instructional programs with French-as-a-second language components;

2. Participation in such programs has always been voluntary;

3. Parents played an extremely strong and catalytic role in all aspects of program design, development, and implementation;

4. French was used from the very beginning for all readiness activities and as the language of initial reading instruction. For the most part, the native language and target language skills of entering children were uniform;

5. The teachers were native speakers of French which was used as the major medium of primary content instruction. Nevertheless, an English Language Arts component was always added to the curriculum by grade 2 or 3 and formed an integral part of the core curriculum throughout the primary and secondary years of instruction. This intentional teaching of the mother tongue served to mark explicitly the continuing importance or status of English as a valued language and helped to solidify formal decontextualized, or academic, English language skills;

6. Starting with the middle primary years, some content material was taught via English. Selected periods of the day were devoted from that point on to the teaching of English Language Arts, French Language Arts, some content subjects via French and other content subjects via English.

Such programs are <u>not</u> transitional bilingual education programs. Neither are they the traditional second or foreign language programs in the American sense. Rather they are characterized by the use of the target language as a major medium for teaching relevant content material which is of interest to the students; they contain structured language arts components in both the target language and in the child's mother tongue; they involve continuing communication between the language arts teacher and the content instructors; they are characterized by teaching

strategies which are designed to facilitate the provision of comprehensible input to the children; they are designed to maximize the use by teachers and students of diverse strategies for the negotiation of meaning; and they require that students produce varied oral and written output.

The results of research conducted with immersion programs have been presented in some detail, and it would be redundant to repeat them. However, by way of brief summary, the consensus of researchers who have worked with large groups of different children participating over long periods of time in programs in different schools, within different school boards, and in different provinces -- and coincidentally in the United States immersion programs as well -- is that this innovative approach to second language teaching in which the target language is used as a major medium of classroom communication facilitates second language acquisition without causing any detrimental effects whatsoever to native language development, or to general cognitive or social development. In addition, youngsters perform as well as their English-taught peers on achievement tests in content areas such as math, science, or social studies while performing as well as French-taught peers on comparable French-language achievement tests. In addition, there appears to be evidence for a general increase in creativity or cognitive flexibility associated with the development of bilinguality and with participation in such programs (results which are not inconsistent with those reported by Hakuta, 1986).

Thus, there has been a systematic tradition of integrating language and content instruction within the Canadian educational context for more than 20 years. Immersion programs were "exported" to the United States following Russ Campbell's brief sabbatical visit to McGill University during early 1970. Following this visit, Campbell and his colleagues implemented the Culver City Spanish immersion program and the model was subsequently replicated in numerous sites throughout the United States (see Campbell et.al., 1985; Tucker & Crandall, 1985). The general pattern of findings from immersion programs in the United States has been consistent with the Canadian experience. What critical component was missing from the Canadian program?

A 20-Year Paradox -- The Absent Peer Group. On numerous occasions, when Canadian-based staff would talk about the French-immersion programs to American audiences, a question often raised was why francophone youngsters had not been included so that the classes

would truly become two-way bilingual programs. There is no simple answer to this question although there were a variety of religious and political factors which precluded developing what might be referred to as two-way or interlocking or bilingual (immersion) education programs. Suffice it to say, that except for a brief "experiment" in which anglophone youngsters participating in the French-immersion programs were literally transported in groups by taxi across town to participate in selected classes during a part of the school day in a traditional French Protestant school it was unfortunately not possible to implement programs of this type. Nevertheless, on the basis of this brief experience in the early 1970s, and on the basis of our own continuing intuitions, many of us long felt strongly that truly innovative programs which brought together mother tongue speakers of the two major contact languages for meaningful instruction in each of those languages would ultimately provide the greatest opportunity for children to develop full and effective bilingual proficiency.

Thus, a number of us had been flirting with a special kind of integration of language and content instruction for more than two decades. We had stopped short, however, of establishing two-way or bilingual immersion programs in which language and content instruction was delivered in a full bilingual program bringing together representatives of both target language groups. But we had written about the potential value of "enrichment models" (Tucker, 1986) or programs which could be designed to capitalize on the fact that language-minority students and language-majority students can participate meaningfully and effectively in joint education. Careful, empirical, longitudinal research has demonstrated repeatedly that the facilitation of bilinguality is associated with intellectual advantage, and greater awareness and tolerance for ethnic diversity. An approach which maximizes the integration of language and content instruction for members of major language contact groups simultaneously seemed to hold great promise for building and sustaining valuable natural language resources within the United States (see Campbell & Lindholm, 1987; Lindholm, 1987).

Two-Way or Bilingual Immersion Programs. We believe that there is an emerging awareness of the power and the possibilities of bilingual immersion programs. Such programs have been referred to as two-way, interlocking, dual-language, bilingual immersion, or by some

developmental bilingual programs. Our operational illustration of an exemplary bilingual immersion program follows. Let us suppose, for example, that there are 30 youngsters in a particular grade 1 class at a typical elementary school. For illustrative purposes, let us assume that 15 of them are Anglo or English mother tongue youngsters, and 15 are Hispanic youngsters (the language background characteristics of the participating Hispanic youngsters will, in many cases, be more heterogenous than that of their Anglo counterparts). The youngsters would be together in a class in which some portion of the day would be devoted to Spanish language arts (for the Hispanics), Spanish as a second language (for the Anglos), English language arts (for the Anglos), English as a second language (for the Hispanics), with the teaching of selected content material -- let us say mathematics -- in English, and other content material -- let us say history -- in Spanish. Over the course of several years, the idea would be to offer a program of bilingual instruction in which representatives of both of the ethnolinguistic groups would have an opportunity to develop and to hone their literacy skills while developing the fullest possible social and academic proficiency in both of their languages.

In addition to the regular continuing sequence of language arts classes, care would be taken so that children would have an opportunity to study all of the content subjects in both of the languages during the course of their school experience. This would facilitate the develoment of the appropriate "registers" for mathematics, science, etc. in each of the two languages. Instruction would be offered within a bilingual ambience in which teachers as well as students would be available to provide good language models and maximize the opportunity for cooperative learning, peer group tutoring, etc. Do such exemplary programs exist?

Exemplary Bilingual Immersion Programs. Lindholm (1987) compiled a list of the preschool through high school bilingual immersion programs in the United States. At that time, she identified 60 such programs in California, Florida, Illinois, Massachusetts, Michigan, New York, Virginia, and Washington, D.C. The most prevalent languages involved were English and Spanish, although there were also programs involving English and Greek (in Long Island) and English and Arabic (in Hamtramck, MI). Lindholm discusses the rationale for bilingual immersion education and presents a theoretically-motivated operational definition of such programs. She

describes each program in some detail and provides directions for obtaining additional information. According to Lindholm, the following criteria are essential for successful bilingual immersion programs:

1. The bilingual instructional treatment must be provided for at least 4 to 6 years (note how different this is from the typical "early exit" transitional bilingual education program);

2. There will be a focus on the regular academic curriculum as well as on language development;

3. There will be the fullest possible integration of language arts with the curriculum;

4. Optimal dual language input should be provided through communicatively-sensitive language instruction and subject-matter presentation;

5. There will be ample opportunity and demand for language output; and

6. Instruction will be carried out in what might be referred to as an "additive" bilingual environment;

Thus, she identifies a set of criteria which are fully compatible with those described by Snow, Met and Genesee (1989), Short, Crandall and Christian (1989) as well as with the earlier theoretical construct of Mohan (1986).

Two Case Studies. Let us describe briefly two exemplary bilingual immersion programs. We have chosen these two illustrative programs because they were implemented under quite different social and ethnolinguistic circumstances in two widely-separated parts of the country and, equally importantly, because each has been the subject of careful attention since inception. It is our belief that additional longitudinal quantitative and qualitative evaluation is necessary and desirable to document the relative efficacy of bilingual immersion and to describe the conditions under which it is as a viable program option for youngsters.

Case Study 1 -- Key Elementary School (Arlington, VA). Under the aegis of the federally-funded Center for Language Education and Research (CLEAR), CAL staff have worked with staff of the Key Elementary School in Arlington County, VA to design and to implement a bilingual immersion program. The program is currently in its third year of operation. The pilot class of youngsters is now in the third grade with new cohorts having been added in each of the

two succeeding years. (Children participated in a "regular" English-medium kindergarten program.) The County curriculum has been used for all content areas so that students in this program work toward the same objectives as other elementary school youngsters in Arlington County schools. That is, the students follow the typical program in social studies, science, mathematics, and language arts. Participation in the program is voluntary. The classes average from 18 to 20 students with usually about 40% being native Spanish speakers, 40% being native English speakers, and 20% being speakers of other languages who have nevertheless added English to their repertoire. The Spanish-speaking youngsters come from disparately, but predominantly, Central American backgrounds.

The program has been a bilingual one using English and Spanish as the media of instruction. Teachers who are ative speakers of Spanish provide instruction during the "Spanish portion" of the day while the converse is true for the English portion. The objective was to devote about 50% of the available instructional time to Spanish, and 50% to English. An important contributing factor in the successful implementation of the program has been the support and encouragement of the school principal Dr. Paul Wireman, and enthusiastic support by parents.

CAL staff (in particular Nancy Rhodes with assistance from Donna Christian and Jodi Crandall) have followed the program closely since its inception. In general, their evaluation plan addressed the following general questions:

- What level of English and Spanish proficiency do students attain, and how does this change over the year?
- How well do the bilingual immersion students perform in content area subjects? Do they appear to make academic progress comparable to other students following the regular curriculum? (There is a potential comparison group, but not a matched control group in the strict sense of the term.)
- How do affective factors (cross-cultural awareness, language attitude, etc.) change over the course of participation in the program?
- How do parents view the program?

Information of various types has been collected over the past three years (data for year 3 are, of course, not yet complete, but will be collected later in the spring). In addition to collecting quantitative data, staff members have also spent time observing classes and talking informally with varopis staff. Students, teachers, parents, and the principal were also interviewed to elicit their feelings about the program. The results can be briefly summarized as follows (more detailed informatio is presented in Center for Applied Linguistics (1988)):

1. With respect to English language development (as assessed by the Language Assessment Scales (LAS), a Student Oral Proficiency Rating (SOPR), and the Boehm Test of Basic Concepts) the English-speaking students do improve both their Spanish and English skills from fall to spring of grade 1. By grade 2 the English speakers had reached the top of the scale in their English, and had improved their Spanish quite noticeably. The Spanish-speaking youngsters also improved from fall to spring and by the end of the 2nd grade peformed at nearly the highest levels in both Spanish and in English. On the basis of the Boehm scores, the immersion class students showed gains in their understanding of concepts from fall to spring in both English and in Spanish -- and additionally in both year 1 and year 2 of the evaluation the immersion class students had gains equal to or higher than a comparable paired first grade class. (This was, as mentioned before, not a matched control group in the traditional sense nor were students randomly assigned to classes.) In terms of English reading progress, by the end of second grade, of 18 immersion students 16 scored at the first half of the third grade level according to tests that accompany the Ginn reading series.

2. With respect to social studies which was taught in Spanish and tested in Spanish, there was virtually no difference in scores when compared with class averages for the paired classes that were taught and tested in social studies in English. Likewise, students appeared to be making appropriate gains in Spanish and in mathematics. For math the students were administered a test in English developed for the Holt math series with the majority scoring between the 80th and 95th percentile.

3. The students' personal views about learning Spanish and English are also interesting. We were amazed at how sophisticated their knowledge was about language learning

and about the differences between the languages. All students enjoyed being able to communicate with others in Spanish and in particular by, grade 2, English students were quite relaxed about their Spanish language skills and seemed to take it for granted that they could speak two languages. The anglophone children suggested that "Of course Spanish was useful -- that's how we can talk to people who only speak Spanish."

4. In general, parents uniformly spoke extremely favorably about the program. In particular, parents with several children in the County's schools. have noted that academically the participants seemed advanced compared to other children. Parents believe that the program is excellent both academically and socially.

All in all, this particular program appears to be a success. The children appear to interact; to develop social and academic language skills in both English and in Spanish; to gain content mastery in those subjects which are a part of the regular County curriculum; and in short to have benefited from this program in which there is an optimal integration of language and content instruction. Success of the program is, at least in part, attributable to the excellent coordination among staff and to the support of the administration. CAL staff will continue to monitor the program at the request of school officials.

Case Study 2 -- Edison Elementary School (California). The second case study is taken from work conducted by CLEAR staff, in particular by Kathyrn Lindholm, with the Edison Elementary School in the Santa Monica-Malibu Unified School District in California. A complete report is presented by Lindholm (1988) in which she summarizes the language proficiency and academic achievement of two cohorts students after their first year of participation in a bilingual immersion program.

Briefly, in this particular school, English-speaking and Spanish-speaking youngsters -- 58 at the kindergarten level and 54 at the first grade level -- participated in a bilingual immersion program which was slightly different from that implemented at Key Elementary School. According to the instructional design for this program, both native English-speaking and native Spanish-speaking kindergarten and first grade students received approximately 90% of their instructional day in Spanish. During that portion of the day Spanish Language Arts was taught and

in addition all content material was taught in Spanish. For the remaining 10% of the day, teaching was carried out in English by another teacher. This time was used for English Language Arts and physical education. The instructional content of the program was equivalent to that for other non-participating students in the school. Enrollment in the bilingual immersion program was voluntary (and students were not randomly assigned to classes for experimental purposes). The program integrated language instruction with content instruction in the traditional academic areas and provided for "integrated" classrooms with respect to students' relative language proficiency. Parents were involved in a positive collaborative relationship with teachers and administrators, and efforts were made to develop a bilingual social ambience for the program within the school.

CLEAR staff, under the direction of Lindholm, conducted research intended to examine various aspects of student language characteristics, language proficiency development, achievement in content subjects in both Spanish and English, perceived self-competence, and attitudes toward the bilingual immersion program. The results can be divided into several clusters. With regard to students' language proficiency, all made gains in both languages. (The Comprehensive Test of Basic Skills, the Idea Proficiency Test, and the Student Oral Language Observation Matrix developed by the California Department of Education were employed.) Native language proficiency was high for members of both groups. The level of proficiency in the second language varied considerably ranging across the spectrum from non-proficient to fully proficient. Interestingly, more Spanish-dominant students were fluent in the second language than were English-dominant students.

Both groups of students scored at an average to an above average level in terms of their achievement on tests of reading ability, and mathematics ability. The children made significant progress from the fall to the spring. On English language achievement tests (and remember that the students had studied in Spanish) the first grade Spanish-dominant children scored only slightly below average, and they did not differ significantly from the non-bilingual immersion students. The first graders scored well above average on the other hand. (Measures such as La Prueba Riverside de Realizacion en Espanol, CTBS, and CTBS-Espanol were used.) All of the students' perceived competency ratings were high in each of the domains -- cognitive,

physical, peer, and maternal -- and attitudes toward the bilingual immersion program were generally positive from the parents and from the teachers.

In general, the Spanish speakers at both grade levels made highly significant gains in English and the English speakers demonstrated gain in English proficiency as well. Thus, despite the small amount of English instruction most student nevertheless made gains in English language proficiency. Secondly, all students made gains in Spanish proficiency. These are important results because they help to reinforce the importance of the bilingual immersion model's assumptions relating to language development. Interestingly enough, the English-speaking youngsters acquired enough content after only one year of instruction through Spanish to be able to score average to above average in a test normed for native Spanish speakers. The fact that all students were able to score this high in reading and math demonstrates that the students were acquiring the math concepts in Spanish and were able to transfer and apply them when tested in English. Thus, at least tentatively, the achievement results validate the assumptions underlying the bilingual immersion model which assumes transfer of skills across languages. At the end of grade 1, and now continuing of course into grade 2, the program appears to be an effective education model for both language minority and language majority students. In this particular program the plan is to gradually increase the amount of English content instruction until the program is approximately evenly balanced in this regards. What generalizations, if any, can be drawn on the basis of these two case studies?

The Case Studies in Perspective. Although we have not done justice to the richness of the two case studies in this brief presentation, we hope that they do serve to illustrate the following points. Bilingual immersion education can be a powerful vehicle for promoting the development of bilingual language competence in elementary school-aged youngsters (and presumably for older students as well). This innovation which represents a "special case" of the integration of language and content instruction serves to foster the development of solid building blocks in both languages which can lead to the development of social as well as academic language skills (or as others would label these terms to the development of contextualized and decontextualized language abilities). The success of the innovation appears to rest upon a sensitivity by the teachers to the language abilities

and needs of the children; to the fact that content which is inherently interesting and appealing for the children can be a conceptual peg upon which to build the development of language and higher order thinking skills; and that students working collaboratively across language boundaries can serve to reinforce, to extend, and to solidify their respective language skills. Thus, from our perspective, sensitive teachers working within a positive ambience -- in this particular case with supportive parents as well as supportive administrators -- can utilize the natural resources which both groups of students bring with them to the learning environment. These abilities can be nurtured and can be extended by careful planning and by creative and sensitive teaching; but the children themselves play a key role in fostering and facilitating this cross-language development.

In another companion paper (Crandall & Tucker, 1989), we describe some of the critical attributes which are essential for the successful implementation of programs to integrate language and content instruction. We will also identify areas for further development, for in-service education, and areas in which additional research needs to be conducted (for example, what is the optimal mix of youngsters by language background in a bilingual immersion program; what proportion of instruction should be offered in each language at various levels; cumulatively how do participating children fare when compared with English-instructed peers).

On previous occasions, several of us (see, for example, Campbell & Lindholm, 1986; Tucker, 1986) have referred to language competence as a national and as a natural resource to be nurtured and to be sustained. Bilingual immersion education which is a special case representing the fullest extent possible of integration of language and content instruction would seem to offer a powerful vehicle for accomplishing this goal.

References

Campbell, R.N., Gray, T.C., Rhodes, N.C. & Snow, M.A. (1985). Foreign language learning in the elementary schools: a comparison of three language programs. The Modern Language Journal, 69, 44-54.

Campbell, R.N. & Lindholm, K.J. (1987). Conservation of Language Resources. (Educational Report No. 6) Los Angeles: University of California, Center for Language Education and Research.

Cantoni-Harvey, G. (1987). Content-area Language Instruction: Approaches and Strategies. Reading, MA: Addison-Wesley.

Center for Applied Linguistics (1988). Review of the second year of the partial immersion program at Key Elementary School, Arlington, VA (1987-88). Center for Language Education and Research.

Chamot, A.U. & O'Malley, J.M. (1987). The cognitive academic learning approach. TESOL Quarterly, 21(2), 227-247.

Crandall, J. (Ed.) (1987). ESL Through Content-Area Instruction. Englewood Cliffs, NJ: Prentice-Hall Regents/Center for Applied Linguistics.

Crandall, J. & Tucker, G. R. (1989). Content-based language instruction in second and foreign languages. Paper presented at RELC Regional Seminar, Singapore.

Genesee, F. (1987). Learning Through Two Languages: Studies of Immersion and Bilingual Education. Cambridge, MA: Newbury House.

Hakuta, K. (1984). Mirror of Language: The Debate on Bilingualism. New York: Basic Books.

Hamayan, E. (1986). The need for foreign language competence in the United States. ERIC Digest, Washington, DC: Center for Applied Linguistics.

Lambert, W.E. & Tucker, G.R. (1972). The Bilingual Education of Children. Rowley, MA: Newbury House.

Larsen-Freeman, D. (1986). Techniques and Principles in Language Teaching. New York: Oxford University Press.

Lindholm, K. J. (1987). Directory of bilingual immerson programs: two-way bilingual education for language minority and majority students. (Educational Report No. 8) Los Angeles: University of California, Center for Language Education and Research.

Lindholm, K.J. (1988). The Edison Elementary School bilingual immersion program: student progress after one year of implementation. (Technical Report No. 9) Los Angeles: University of California, Center for Language Education and Research.

Mohan, B.A. (1986). Language and Content. Reading, MA: Addison-Wesley.

Rhodes, N.C. & Oxford, R. (1988). Foreign language in elementary and secondary schools: results of a national survey. Foreign Language Annals, 21, 51-69.

Richards, J.C. & Rodgers, T.S. (1986). Approaches and Methods in Language Teaching: A Description and Analysis. New York: Cambridge University Press.

Schinke-Llano, L. (1985). Foreign Language in the Elementary School: State of the Art. Orlando, FL: Harcourt Brace Jovanovich.

Short, D.J., Crandall, J. & Christian, D. (1989). How to integrate language and content instruction: a training manual. (Educational Report No. __) Los Angeles, University of California, Center for Language Education and Research.

Snow, M.A. & Brinton, D.M. (1988). Content-based language instruction: investigating the effectiveness of the adjunct model. TESOL Quarterly, 22, 553-574.

Snow, M.A., Met, M. & Genesee, F. (1989). A conceptual framework for the integration of language and content in second/foreign language instruction. TESOL Quarterly. In press.

Stern, H.H. (1983). Fundamental Concepts of Language Teaching. Oxford: Oxford University Press.

Swain, M. (1984). A review of immersion education in Canada: research and evaluation studies. In P.Allen & M. Swain (Eds.) Language Issues and Education Policies. Oxford: Pergamon.

Tucker, G.R. (1986). Implications of Canadian research for promoting a language competent American society. In J.A. Fishman (Ed.) Festschrift for Charles A. Ferguson. The Hague: Mouton.

Tucker, G.R. (1986). Developing a language-competent American society. In D. Tannen (Ed.) Georgetown University Round Table on Languages and Linguistics 1985. Washington, DC: Georgetown University Press.

Tucker, G.R. & Crandall, J. (1985). Innovative foreign language teaching in elementary schools. In P.H. Nelde (Ed.) Methods in Contact Linguistic Research. Bonn: Dümmler.

Willetts, K. (1986). Integrating language and content instruction. (Educational Report No. 5) Los Angeles: University of California, Center for Language Education and Research.

Willig, A.C. (1985). A meta-analysis of selected studies on the effectiveness of bilingual education. Review of Educational Research, 55, 269-317.